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REPORT
 CD NO.

50X1-HUM

COUNTRY USSR
 SUBJECT Economic; Technological - Machine tools, tools,
 ceramic cutters
 HOW PUBLISHED Daily newspapers
 WHERE PUBLISHED USSR
 DATE PUBLISHED 20 Jun - 11 Sep 1952
 LANGUAGE Russian

DATE OF INFORMATION 1949 - 1952
 DATE DIST. 5 JAN 53
 NO. OF PAGES 3
 SUPPLEMENT TO REPORT NO.

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SOVIET TOOL PRODUCTION DEVELOPMENTS

NEW FORMULA FOR CERAMIC TOOLS -- Minsk, Sovetskaya Belorussiya, 3 Sep 52

The All-Union Scientific Research Institute of Abrasives and Grinding has developed a new formula for thermocorundum, a super-hard ceramic for making lathe tools and other metalworking tools.

The new thermocorundum is twice as hard as existing types. Industrial production of tools made of the new material has been mastered at the institute's experimental plant.

Cutters made of the new ceramic cost one tenth as much as hard-alloy tools. Possessing high heat endurance, the new ceramic cutters are making it possible to achieve lathe cutting speeds never before attained. For example, cast-iron parts can be machined at a speed of 3,200 meters per minute.

SERIES PRODUCTION OF CAST BIMETALLIC TOOLS -- Moscow, Izvestiya, 10 Aug 52

The Tomsk Cutting-Tool Plant has mastered and begun the series production of cast bimetallic mills.

Earlier, the plant put out mills made entirely of high-grade steel. Now, only the cutting part is made of high-grade steel and the shank is made of machine steel. As a result, the consumption of expensive metal has been cut three to four times. The cost of producing the tools has decreased considerably. The consumption of high-quality steel for the manufacture of one cutter for drilling in the petroleum industry was formerly 9.5 kilograms; now it is only 2.5 kilograms.

RESTORE TOOLS AND ABRASIVES -- Moscow, Komsomol'skaya Pravda, 13 Aug 52

From September 1949 to April 1952, the Khar'kov Tractor Plant imeni Sergo Ordzhonikidze restored 10,038,000 rubles' worth of tools and abrasives. In this period, it saved more than 230 tons of tool steel.

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USE ACIDS TO RESTORE WORN-OUT FILES -- Vil'nyus, Sovetskaya Litva, 6 Sep 52

For the first time in the Lithuanian SSR, a department for the restoration of files and photoelectrochemical engraving has been created at the Kaunas Pergal Turbine-Building Plant.

A large quantity of files is worn out monthly at each plant. Formerly, these files were discarded. Now, worn-out files are treated in a mixture of sulfuric and nitric acid at a temperature of 65 degrees, after which they acquire the properties of new files. They can undergo this treatment twice.

INTRODUCE BRIGHT HARDENING OF STEEL AT TOOL PLANTS -- Minsk, Sovetskaya Belorussiya, 19 Aug 52

The Moscow Tool Plant has introduced a new technological process, the so-called bright hardening of steel. Its perfection is attributed to the creative collaboration of production workers with scientists of the All-Union Scientific Research Tool Institute.

Until recently, the heat-treatment of multisection tools consisting of a large number of parts with a large number of threads and holes took a great deal of time. The heat-treatment shop was overloaded and the production cycle was delayed.

Engineers and workers at the Moscow Tool Plant decided to set up the heat-treatment shop in a new way. Scientists, having studied this problem in laboratories, helped the production workers to solve it.

Experiments have shown that the hardening of steel in alkaline media, bright hardening, except for a few cleaning operations such as scouring, boiling, etc., makes it possible to shorten the production cycle 20-25 percent. A special unit for bright hardening was designed and put into industrial use. This method is now being adopted at other tool plants.

TOOL PLANT FACES COMPLEX TASKS IN NEW FIVE-YEAR PLAN -- Moscow, Moskovskaya Pravda, 11 Sep 52

The output of cutting tools at the Moscow Frezer Plant increased 2.6 times in the fourth Five-Year Plan, whereas the number of workers increased only 40 percent. However, there are still many serious shortcomings in plant operations.

The plant is faced with even more complex and responsible assignments in the new Five-Year Plan. First, it must rapidly increase the output of high-duty cutting tools for the machine-building industry. It must master the production of cutting tools and machine tools for the watch and instruments industry and put out new high-duty machine tools for the tool industry. -- Zhil'tsov, director, Moscow Frezer Plant.

MANUFACTURE INSTRUMENTS FOR WATCH PRODUCTION -- Leningradskaya Pravda, 20 Jun 52

The Leningrad Tool Plant has manufactured the first group of instruments for the watch industry. These are automatics for counting tiny jewels made of synthetic stones and other parts used in watch production. This type of instrument can count up to 600 stones per minute.

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USE ANODE-MECHANICAL METHOD AT WATCH PLANT -- Moscow, Vechernyaya Moskva,
5 Sep 52

Hard-alloy tools are ground by the anode-mechanical method at the tool shop of the Moscow First Watch Plant imeni S. M. Kirov.

MODERNIZE OLD MACHINE TOOLS -- Moscow, Trud, 7 Aug 52

There are many lathes of old design at the Tashkent Tool Plant. The personnel at the plant decided to modernize this equipment themselves.

The motor of each old machine tool, which was previously on the floor, was put on a stand. The rotor of the motor was connected directly to the shaft in the gear box by means of a soft coupling. This made it possible to increase the spindle speed from 600 to 1,540 revolutions per minute. Previously, parts were machined between centers with a dog; now, they are mounted in a quick-acting chuck. In addition, a special attachment has made it possible to turn and chamfer a part at the same time.

Still later, the rotors of motors were connected directly to the spindles on four machine tools. In this case the spindle speed is 2,800 revolutions per minute, which is nearly five times as great as specified by the rating plate. Lathe operators applied high-speed methods of cutting metal and increased labor productivity eight times.

PUT NEW CONVEYER LINE INTO OPERATION -- Tashkent, Pravda Vostoka, 6 Sep 52

A new constant-flow line for the manufacture of chasers went into operation on 4 September at shop No 2 of the Tashkent Tool Plant.

Among the equipment in this line is a six-spindle automatic machine tool produced by the Kiev Machine Building Plant.

This is the third conveyer line to be installed at the plant.

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